

SERVICE NOTE

100

PRODUCT AFFECTED	ASSEMBLIES AFFECTED	DRAWINGS AFFECTED
OB-Xa serial numbers 810602 and before	Lower Control Board	

FUNCTION AFFECTED: Cassette Interface (loading data in)

On OB-Xa control boards there was a production change of the capacitors used mostly for bypassing the power supply voltages.

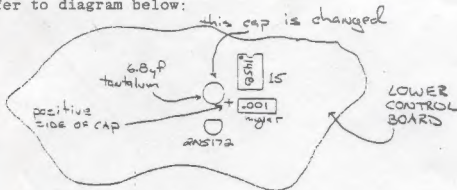
The original value was 6.8uF tantalum. The new value will be 10uF to 22 uF electrolytics. However, the timing capacitor in the cassette interface input circuit requires a 6.8uF tantalum.

A larger value capacitor in this circuit causes improper synchronization of the inputted data.

OB-Xa's with serial numbers 810602 and before may have the wrong capacitor installed.

Replace this capacitor when necessary. Note the polarity when replacing the capacitor.

Refer to diagram below:



Note: This timing capacitor doesn't affect the cassette interface outputting data (record mode).

WRITTEN BY

DATE

APPROVED BY

DATE

[Signature]

2/12/81

[Signature]

3/6/81

PRODUCT AFFECTED

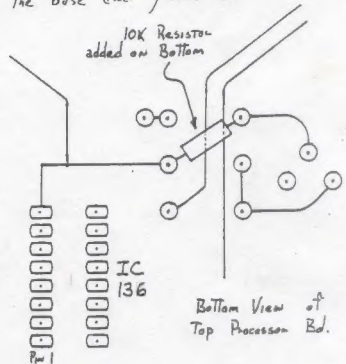
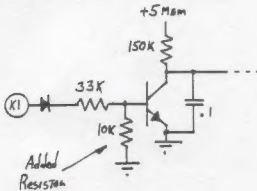
OB-Xa

DRAWINGS AFFECTED

1517 sheet 1 of 3

DESCRIPTION OF CHANGE

A 10K Resistor is added between the base and ground of the Power Detect Transistor.



REASON FOR CHANGE

Prevents false operation of Power-Up (PUP) Circuitry

(Installed in units with serial #'s 810401 & up)

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

J. Cooper

DATE

1/27/81

APPROVED BY

J. Cooper

DATE

1/30/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.
102

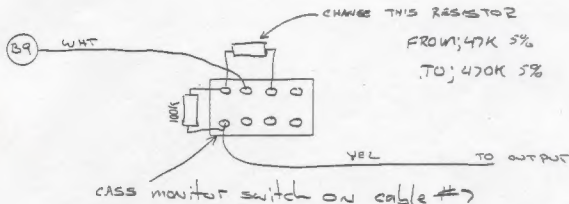
PRODUCT AFFECTED

OBX_g

DRAWINGS AFFECTED

SHEET 4 OF 4
LOWER CONTROL BOARD

DESCRIPTION OF CHANGE



REASON FOR CHANGE

TO LOWER THE VOLUME IN THE "LOW" position of the
cassette monitor switch

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

DATE

[Signature] 2/17/81

APPROVED BY

DATE

[Signature] 2/19/81

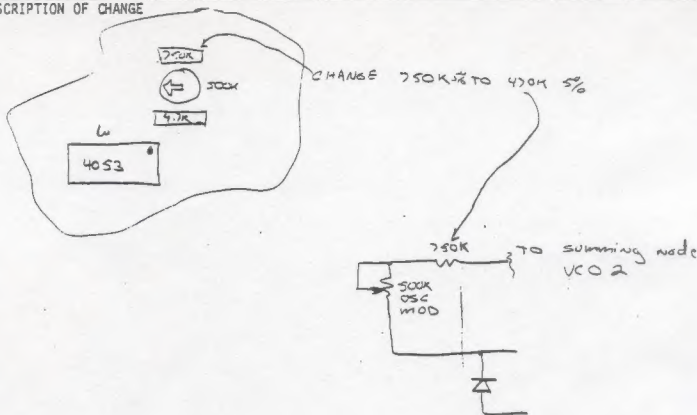
PRODUCT AFFECTED

OBXg

DRAWINGS AFFECTED

1520
VOICE CARD

DESCRIPTION OF CHANGE



REASON FOR CHANGE TO CENTER OSC MOD TRIMMER, THIS giving a more usable range.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
☐ RETROFIT UNITS IN FIELD
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
☒ RETROFIT UNITS IN TEST, ONLY AS REQUIRED

WRITTEN BY

DATE

18

2/23/81

APPROVED BY

DATE

2/25/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.
104

PRODUCT AFFECTED

OBXg

DRAWINGS AFFECTED

1518
Xg Pot BOARD

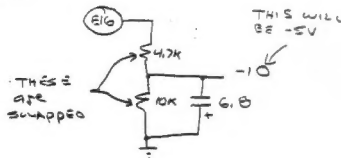
DESCRIPTION OF CHANGE

CHANGE THE -10V supply on pot board to -5V.



SWAP THESE RESISTORS

+
6.8 TANTALUM CAP



REASON FOR CHANGE TO ELIMINATE IMPROPER DECODING OF THE VCF FREQUENCY
POT WHEN PULSE WIDTH & VCF RELEASE POT'S ARE FULL CCW (gnd).
PROBLEM DESCRIPTION: DISTORTION IN FILTER WHEN VCF POT IS FULL CW.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
☐ RETROFIT UNITS IN FIELD
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
☒ AS REQUIRED; IN TEST AND IN FIELD

WRITTEN BY

DATE

APPROVED BY

DATE

2/23/81
2/25/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.

105

PRODUCT AFFECTED

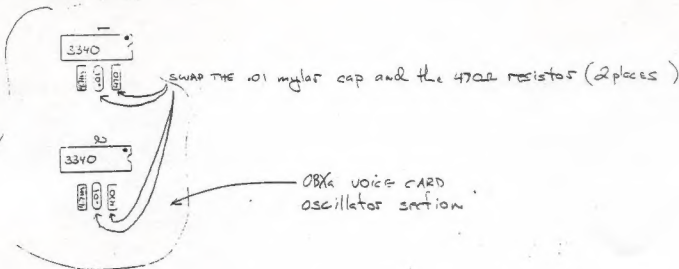
OBXa

DRAWINGS AFFECTED

1520

VOICE CARD

DESCRIPTION OF CHANGE



REASON FOR CHANGE

TO ELIMINATE the possibility of the oscillators phase coupling each-other.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ RETROFIT UNITS interest as required

WRITTEN BY

DATE

118 2/24/81

APPROVED BY

DATE

2900 2-25/81

PRODUCT AFFECTED

OBX_g

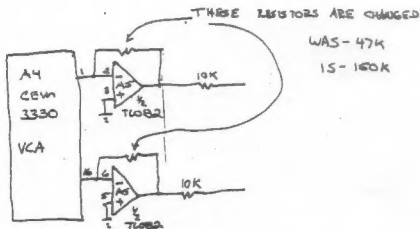
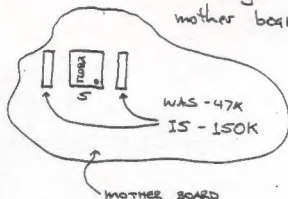
DRAWINGS AFFECTED

OBX_g Mother Board

DESCRIPTION OF CHANGE

Change 47K 5% resistor to 150K 5%, upper and lower mother boards; 2 places each.

The resistors are located near IC 5 (TWOB2) on both mother boards.



REASON FOR CHANGE

TO INCREASE THE GAIN OF THE OUTPUT VCA CIRCUIT.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD, ONLY IF REQUESTED
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

[Signature]

DATE

3/5/81

APPROVED BY

[Signature]

DATE

3/6/81

PRODUCT AFFECTED

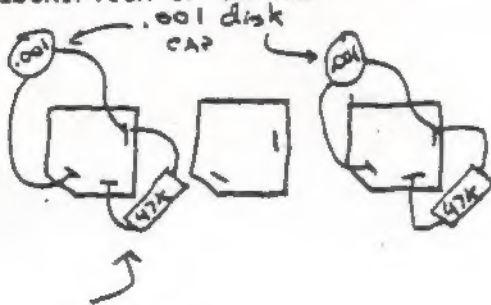
OBX_g

DRAWINGS AFFECTED

OBX_g MOTHER BOARD

CABLE #7

DESCRIPTION OF CHANGE

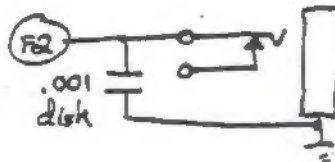
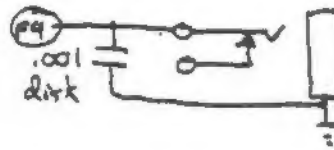


TOP PANEL
(VIEW FROM WIDE)

INSTALL TWO .001 disk capacititors from
tip to ground on each output jack
(left and right)

- KEEP LEADS SHORT AS POSSIBLE

- BE SURE TIP OF PLUG CLEARS CAPACITOR
WHEN INSERTED INTO JACK.



REASON FOR CHANGE TO ELIMINATE HIGH FREQUENCY NOISE IN OUTPUT UCA CIRCUIT.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD, ONLY WHEN REQUESTED
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ IN TEST, AS REQUIRED

WRITTEN BY

DATE

[Signature]

3/5/81

APPROVED BY

DATE

[Signature]

3/6/81

PRODUCT AFFECTED

DRAWINGS AFFECTED

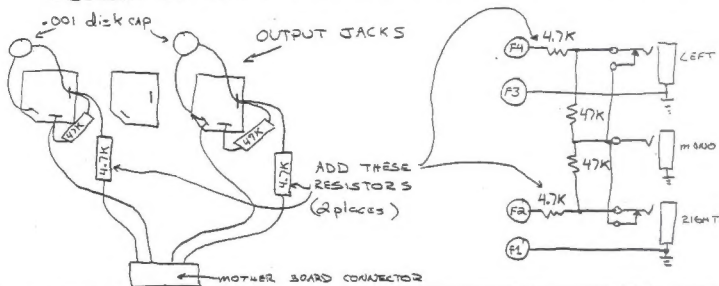
OBXg MOTHER BOARD

OBXg

DESCRIPTION OF CHANGE

ADD 4.7K 5% RESISTOR IN SERIES WITH EACH OUTPUT
(LEFT AND RIGHT)

- CUT POSITIVE LEAD OF EACH OUTPUT CABLE AT THE JACK TIP
- SOLDER ONE END OF THE RESISTOR TO THE CUT LEAD.
- SOLDER THE OTHER END TO THE TIP OF THE OUTPUT JACK.



REASON FOR CHANGE

TO ELIMINATE THE POSSIBILITY OF 'BLOWING' THE P CHANNEL FET IN THE OUTPUT CIRCUIT, WHEN PLUGGING A CABLE INTO THE OUTPUT JACKS

NOTE: NEW MOTHER BOARD LAYOUT WILL HAVE THE RESISTOR ON THE BOARD.

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

DATE

[Signature]

MARCH 18, 1981

APPROVED BY

DATE

[Signature] 3/19/81

PRODUCT AFFECTED

OBX_a

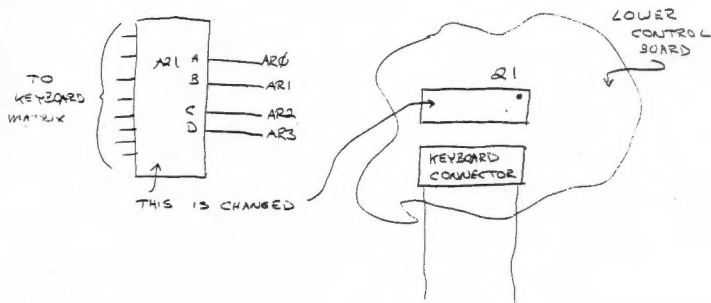
DRAWINGS AFFECTED

1516

SHEET 2 of 4

DESCRIPTION OF CHANGE

REPLACE 74C42 AT LOCATION A21 TO 74LS42.



REASON FOR CHANGE

ELIMINATE IMPROPER DECODING OF KEYBOARD WHEN PLAYING "TIGHT" CHORDS

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ RETROFIT IN TEST AS REQUIRED

WRITTEN BY

DATE

[Signature]

MARCH 18, 1981

APPROVED BY

DATE

[Signature]

3/18/81

PRODUCT AFFECTED

C3Xa

DRAWINGS AFFECTED

OBX - MOTHER BOARD

DESCRIPTION OF CHANGE

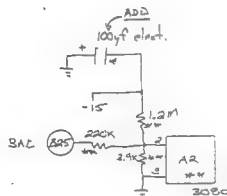
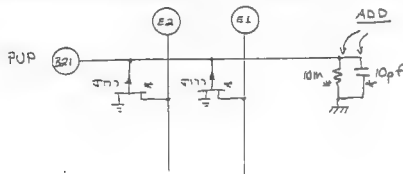
- SEE ATTACHED COMPOSITE -

1-INSTALL 10pf disk cap. and 10 M 5% resistor from upper tray ground to PUP line, near J177 FET's. (UPPER MOTHER ONLY)

2-INSTALL 100pf elect. cap from -15V supply to ground. (BOTH MOTHER BOARDS)

3-INSTALL 100uf ELEC. CAP FROM +15 V SUPPLY TO GND. (BOTH MOTHER BOARDS)

* = UPPER MOTHER BOARD ONLY
+ = LOWER MOTHER BOARD ONLY



NOTE:

~~ADDITIONS TO UPPER MOTHER ONLY~~

REASON FOR CHANGE

TO DECREASE NOISE IN OUTPUT VCA CIRCUIT.

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

WRITTEN BY

[Signature]

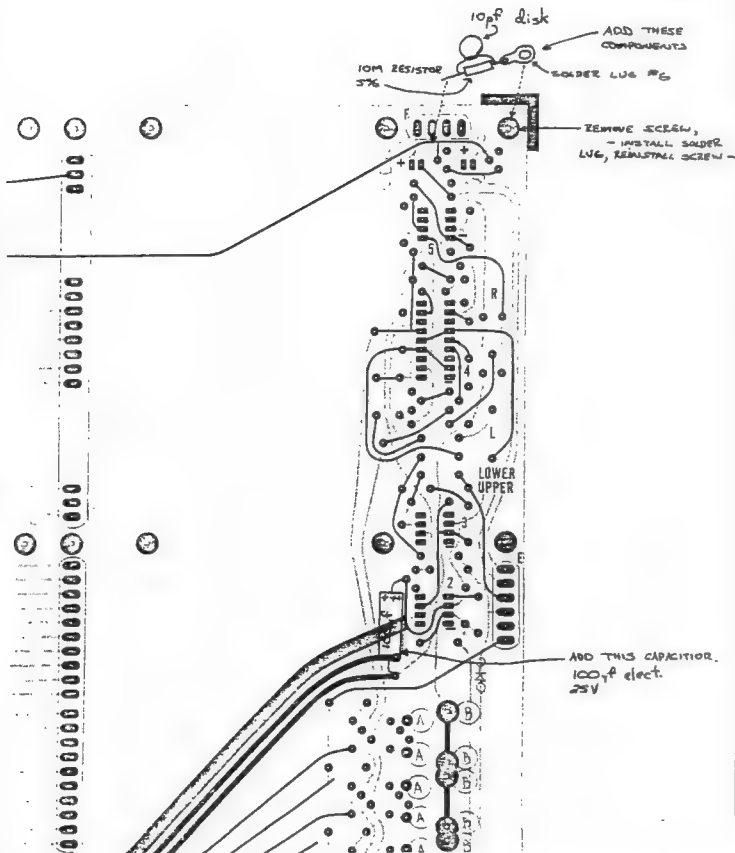
APR 13, 1980

APPROVED BY

[Signature]

APR 13, 1980

OBXa TOP MOTHER BOARD



PRODUCT AFFECTED

OBXa

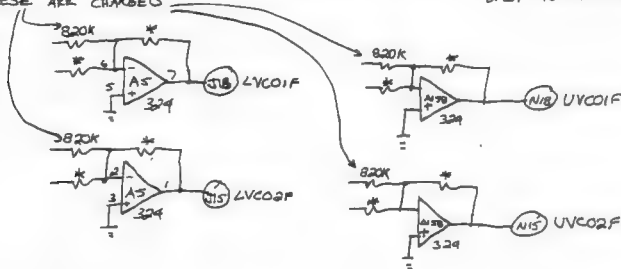
DRAWINGS AFFECTED

1516 SHEET 4 of 4

1517 SHEET 2 of 3

DESCRIPTION OF CHANGE

REPLACE 4 820K 5% resistors to 806K 1%. 2EA upper control.
2EA lower control.
THESE ARE CHANGED



REASON FOR CHANGE

TO MATCH THE LFO GAIN BETWEEN VCO'S.

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ RETROFIT UNITS IN PRODUCTION AND IN TEST.

WRITTEN BY

JP

DATE

7/9/81

APPROVED BY

CEO

DATE

7/9/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.

112

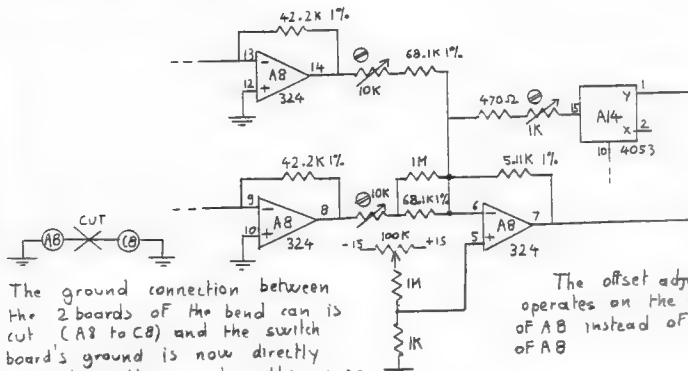
PRODUCT AFFECTED

OB-XA (BEND-CAN)

DRAWINGS AFFECTED

OB-XA MODULATION PANEL
DRAWING NO 1521

DESCRIPTION OF CHANGE



The offset adjustment operates on the + node of A8 instead of - node of A8

REASON FOR CHANGE

Improve the offset adjustments.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
☐ RETROFIT UNITS IN FIELD
☒ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
☐

WRITTEN BY

Michel DOLDIC

DATE

7/21/81

APPROVED BY

[Signature]

DATE

7/21/81

PRODUCT AFFECTED

CBX₉

DRAWINGS AFFECTED

1517

SHEET 1 OF 3

DESCRIPTION OF CHANGE

Replace the 2716 EPROM'S AT LOCATIONS A104 and A103 with 2732 EPROM'S.

Replace the 2716 EPROM AT LOCATION A102 with 6116 CMOS RAM

Replace the 6514 CMOS RAM AT LOCATION A109 with 6116 CMOS RAM

ADD 6116 CMOS RAM, the NEW LOCATION NUMBER is A164.

Replace the 7442 BCD decoders at location A106 with 74LS139 DECODER.

ADD 4011 NAND GATE, the new location number is A111.

ELIMINATE

ADD

-1EA 7442

+2EA 2732

-3EA 2716

+3EA 6116

-2EA 6514

+1EA 74LS139

REASON FOR CHANGE

Expansion of the user programs from 32 patches to 120 patches, with 8 splits and 8 doubles.

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ NEW P.C.B. LAYOUT

WRITTEN BY



DATE

8/7/81

APPROVED BY



DATE

8/1/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.

114

PRODUCT AFFECTED

OBXa

DRAWINGS AFFECTED

1516 SHEET 4 of 4

1517 SHEET 2 of 3

DESCRIPTION OF CHANGE

Add signal trace from A12 pin 6 to unused 4053 (A149) Y input on upper control board.

Add signal trace from A152 pin 6 and add trace to A149 (4053) X input.

Add trace from A149 (output) to pins 3, 13 and 1 of A156.

SEE ATTACHED SCHEMATIC

REASON FOR CHANGE

To match the gain of the LFO between voice trays in normal mode (not split or double).

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ NEW P.C.B. LAYOUT

WRITTEN BY

DATE

11/2 8/7/81

APPROVED BY

DATE

290 8/7/81

PRODUCT AFFECTED

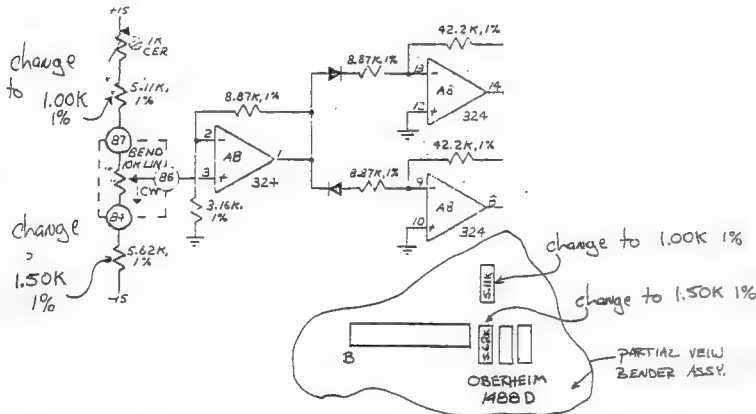
OBXa

DRAWINGS AFFECTED

1521

MODULATION PANEL

DESCRIPTION OF CHANGE



REASON FOR CHANGE

To increase the range of the "center lever" trimmer, (1K cer)

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐

WRITTEN BY

[Signature]

9/23/81

APPROVED BY

[Signature]

9/24/81

PRODUCT AFFECTED

OEX₂

DRAWINGS AFFECTED

1521

MODULATION PANEL

DESCRIPTION OF CHANGE

Add wire from pin 12 of A13 to pin 12 of A12, on bottom of modulation PCB.

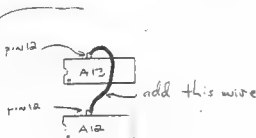
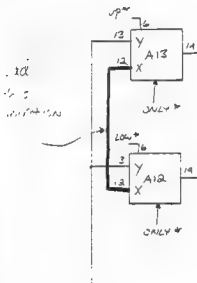


FIG. 1
CIRCUIT

REASON FOR CHANGE

To help eliminate beeping when OSC2 only is on.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD, if required
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ IN TEST IF REQUIRED

WRITTEN BY

RP

DATE

10/2/81

APPROVED BY

D90

DATE

10/2/81

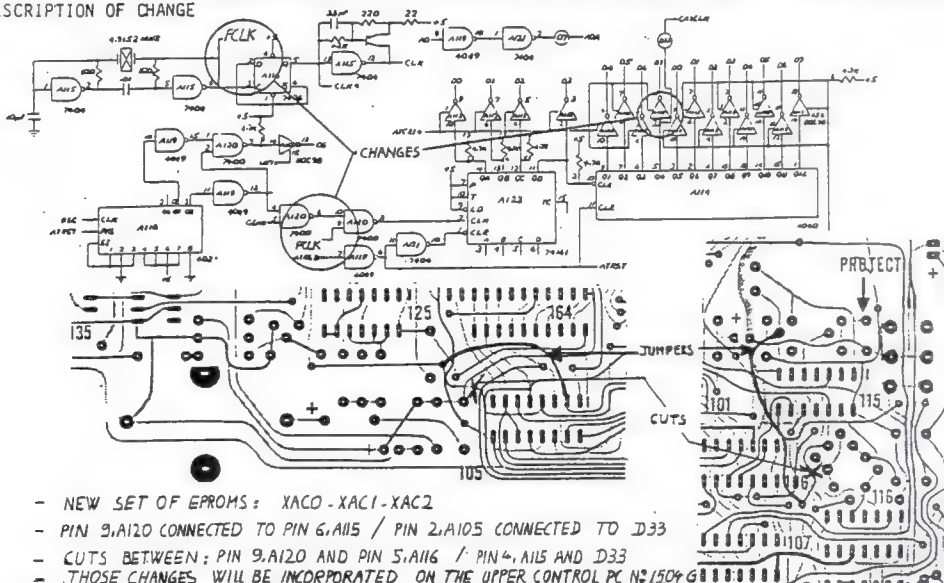
PRODUCT AFFECTED

DRAWINGS AFFECTED

OB-XA (120 PROGRAMS ONLY)

UPPER CONTROL BOARD SHEET 1
N° 1517

DESCRIPTION OF CHANGE



REASON FOR CHANGE

IMPROVE AUTO TUNE

EFFECTIVITY

WRITTEN BY

DATE

- ☐ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

APPROVED BY

DATE

[Signature] 10/14/81

PRODUCT AFFECTED

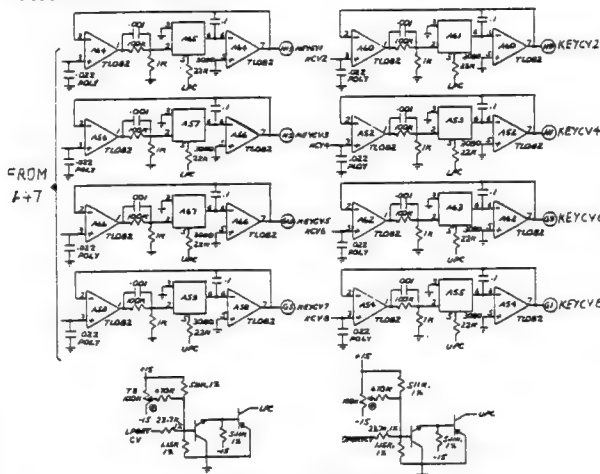
OB-XA

EFFECTIVE FROM UNITS
WITH UPPER CONTROL PC
N:1504G AND LOWER
CONTROL BOARD PC N:1496E

DRAWINGS AFFECTED

OB-XA LOWER CONTROL 1516 SHEET 3

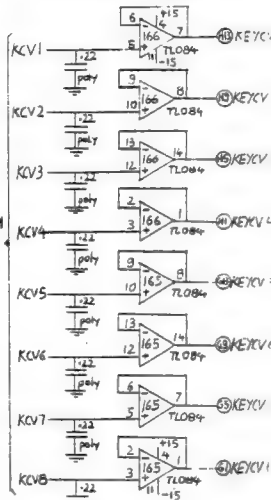
DESCRIPTION OF CHANGE



- NEW SET OF EPROMS (2x2732) XADO XADI
- THE PORTAMENTO IS NOW IMPLEMENTED BY THE SOFTWARE

REASON FOR CHANGE

- Improve the portamento speed matching between different voices
- Simplify the analog circuitry



EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐

WRITTEN BY

MICHEL

DATE

10/14/81

APPROVED BY

DATE

[Signature]

10/15/81

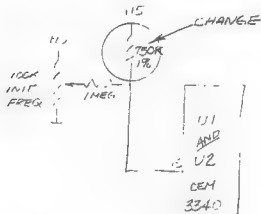
PRODUCT AFFECTED

OB-XA VOICE CARD

DRAWINGS AFFECTED

SCHEMATIC-OB-XA VOICE CARD
DRAWING NO 1520A

DESCRIPTION OF CHANGE



CHANGE 1M 1% (CONNECTED TO *15V
AND PIN 15 OF OSCILLATOR CHIPS)
TO A 750K, 1%. (2 PER CAVL)

REASON FOR CHANGE

TO ALTER INITIAL FREQUENCY TRIMMER RANGE ALLOWING GREATER
PERCENTAGE OF OSCILLATOR CHIPS TO CALIBRATE.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD AS REQUIRED
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ IN TEST IF REQUIRED

WRITTEN BY

DATE

ACG

10-21-81

APPROVED BY

DATE

ACG 11/1/81

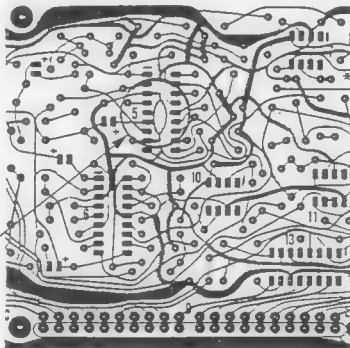
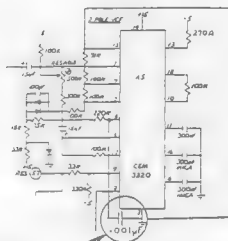
PRODUCT AFFECTED

OB-XA

DRAWINGS AFFECTED

VOICE CARD N° 1520

DESCRIPTION OF CHANGE



REASON FOR CHANGE

— REMOVE OSCILLATION

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

DATE

MICHEL

11/18/81

APPROVED BY

DATE

290

11/19/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.
127

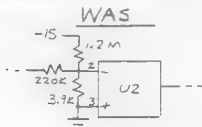
PRODUCT AFFECTED

OB-Xa

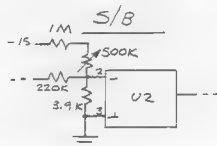
DRAWINGS AFFECTED

1519 MOTHER BOARD (LOWER TRAY ONLY)

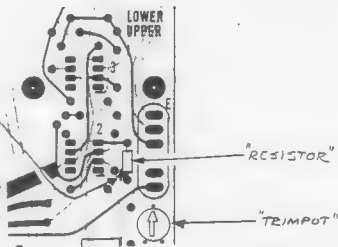
DESCRIPTION OF CHANGE



LOWER
MOTHER
BOARD
ONLY



- 1) CUT ETCH
- 2) CHANGE "RESISTOR"
FROM 1.2M TO 1M
- 3) DRILL 3 HOLES &
MOUNT 500K "TRIMPOT"
- 4) WIRE TRIMPOT WIPER
TO FREE END OF RESISTOR
- 5) WIRE EITHER OTHER TERMINAL
OF TRIMPOT TO PIN 2
OF U2.



REASON FOR CHANGE

TO ALLOW FOR ADJUSTMENT OF VOLUME BETWEEN
TRAYS WHEN NOT IN 'SPLIT' OR 'DOUBLE'.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

CL

DATE

12/14/81

APPROVED BY

DGO

DATE

12/14/81

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.
129

PRODUCT AFFECTED

7B-X₉

DRAWINGS AFFECTED

None

DESCRIPTION OF CHANGE

Cable between bend box & control boards:

After crimping pins on, solder each connection on each.

Also, each end of the cable should be attached & remove 3 times to ensure a low resistance connection
started w/ #820801

REASON FOR CHANGE

Reduce Dist. Can. Offsets

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
☒ RETROFIT UNITS IN FIELD
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
☐ _____

WRITTEN BY

DATE

De

2/19/82

APPROVED BY

DATE

De

2/19/82

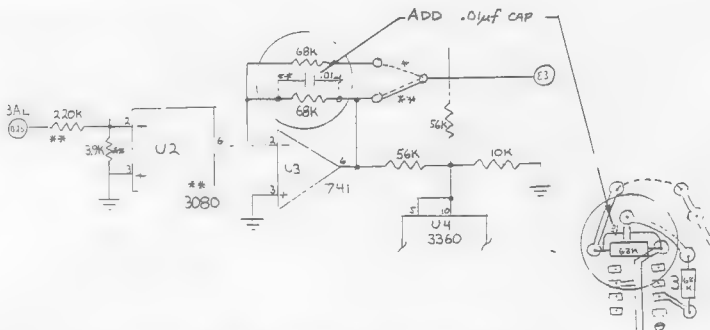
DUCT AFFECTED

DRAWINGS AFFECTED

OB-XA

1519 A SCHEMATIC OB-XA MOTHER BD.

DESCRIPTION OF CHANGE



- .01µf capacitor added in parallel to 68K resistor
in U3 feedback network on lower Mother Board (top side)

ASON FOR CHANGE

To eliminate dac stepping noise at the output from the balance control.

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD AS NEEDED
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ AS NEEDED IN TEST

WRITTEN BY

Randy Evans

DATE

2-23-8

APPROVED BY

DATE

3/4/82

PRODUCT AFFECTED

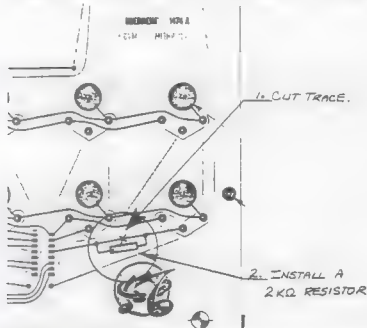
08-XA

DRAWINGS AFFECTED

SCHEMATIC 1518A (POT 80.)
 ASSEMBLY 720055 (POT BL. #1 XA)

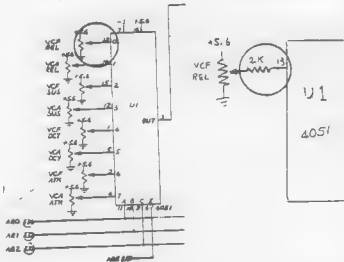
DESCRIPTION OF CHANGE

MAKE ONE CUT ON THE TRACE COMING FROM THE SWINGER OF THE VCF RELEASE RT, AND INSTALL A 2 K Ω RESISTOR ACROSS THE CUT. THIS REDUCES CURRENT THROUGH THAT TRACE. NOTE: DO THIS TO UNITS CONTAINING XA-F β (NOT TO XA-FA) AND TO UNITS CONTAINING THE XA-C β , XA-C1, XA-C2 SERIES EPROMS OR BELOW ONLY. UNITS WITH EPROMS XA-G β , XA-G1 AND ABOVE, DO NOT NEED THIS FIX.



WAS:

SHOULD BE:



REASON FOR CHANGE

AN OPTIONAL HARDWARE FIX FOR XA'S AND 08-X'S THAT HAVE OLD SOFTWARE (2016 EPROMS), CONTAINING AN ERROR WHICH CAUSES NOISE TO BE HEARD WHEN THE VCO PULSEWIDTH CONTROL IS FULLY COUNTER-CLOCKWISE, AND THE VCF RELEASE CONTROL IS FULLY CLOCKWISE.

SEE ECO 132 & 5003

EFFECTIVITY

- ☐ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ AS NEEDED ONLY, UNITS IN FIELD AND INVENTORY

WRITTEN BY

DATE

ANNE

1-28-82

APPROVED BY

DATE

[Signature] 1-28-82

OBERHEIM ELECTRONICS, INC.

ECO NO.

ENGINEERING CHANGE ORDER

132

PRODUCT AFFECTED

OB-XA

DRAWINGS AFFECTED

ASSEMBLY # 720054

OB-XA CONTROL BD

DESCRIPTION OF CHANGE

CHANGE EPROM LABELED XA-F ϕ (PART NO 310001-F ϕ)
TO EPROM LABELED XA-FA ϕ (PART NO. 310001-FA ϕ).

REASON FOR CHANGE

TO IMPLEMENT SOFTWARE CORRECTION THAT ELIMINATES A NOISE
THAT OCCURS WHEN THE VCO PULSEWIDTH CONTROL IS FULLY COUNTER-
CLOCKWISE, AND THE VCF RELEASE CONTROL IS FULLY CLOCKWISE.

SEE ECO 131 & 5003

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
☐ RETROFIT UNITS IN FIELD
☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
☐ _____

WRITTEN BY


DATE

ANNE

1-28-82

APPROVED BY

DATE

 1-28-82

OBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.

134

PRODUCT AFFECTED

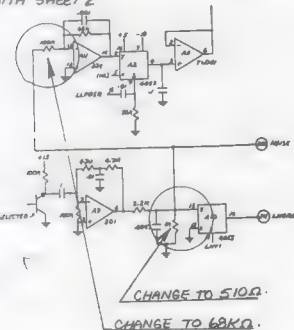
OB-XA

DRAWINGS AFFECTED

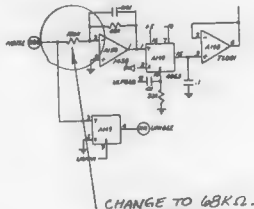
SCHEMATIC 1517A UPPER CONTROL
ASSEMBLY 720054 "
SCHEMATIC 1516A LOWER CONTROL
ASSEMBLY 720053 "

DESCRIPTION OF CHANGE - CHANGE 3 RESISTORS

UPPER CONTROL BD:
17A SHEET 2



LOWER CONTROL BD:
1516A SHEET 4



REASON FOR CHANGE

TO REDUCE THE VOLUME OF THE NOISE FUNCTION

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

DATE

ANNE

3-5-82

APPROVED BY

DATE

290 3-5-92

PROJECT AFFECTED

OB-XA

DRAWINGS AFFECTED

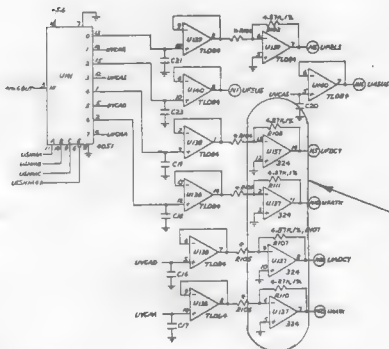
SCHEMATIC 1517A SHEET 2 UPPER CONTROL

ASSEMBLY 720054

UPPER CONTROL

DESCRIPTION OF CHANGE

CHANGE U137 FROM AN LM324 TO A TL084.



CHANGE TO TLO84.

REASON FOR CHANGE

TO MATCH FILTER ENVELOPE CHARACTERISTICS BETWEEN TOP AND BOTTOM TRAYS.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY AS NEEDED
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ AS NEEDED IN TEST

WRITTEN BY

DAT

ANNE

3-5-82

APPROVED BY

DAI.

3-5-82

PRODUCT AFFECTED

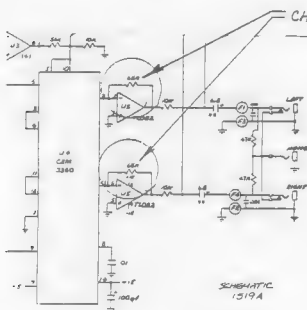
.08-XA

DRAWINGS AFFECTED

SCHEMATIC 1510A SHEET 4 (REAR PANEL)
 SCHEMATIC 1519A MOTHER BD.
 ASSEMBLY 720057 & 720057-0 (LOWER)
 ASSEMBLY 720061 & 720061-0 (UPPER)
 ASSEMBLY 750129-1 (XA CABLE #7)

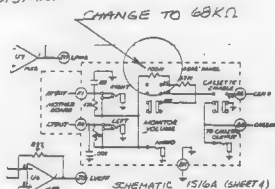
DESCRIPTION OF CHANGE

1. CHANGE A TOTAL OF 4 RESISTORS PER 08-XA UNIT
 FROM 68K TO 120K.



CHANGE TO 120K ON TWO MOTHER BOARDS.

2. CHANGE RESISTOR ON CASSETTE
 MONITOR SWITCH (REAR PANEL) TO
 68KΩ. THIS RAISES CASSETTE
 MONITOR VOLUME, KEEPING RATIO
 OF THE VOLUMES OF SYNTHESIZER
 OUTPUT AND CASSETTE MONITOR
 CONSISTANT.



REASON FOR CHANGE

TO INCREASE GAIN OF OUTPUT.

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☒ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☒ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☐ _____

WRITTEN BY

DAT

ANNE

3-5-82

APPROVED BY

DAT

290 3-5-82

OSBERHEIM ELECTRONICS, INC.
ENGINEERING CHANGE ORDER

ECO NO.

140

PRODUCT AFFECTED

DRAWINGS AFFECTED

OB-XA

ASSEMBLY # 720054 OB-XA UPPER CONTR

DESCRIPTION OF CHANGE

CHANGE EPROM LABELED XA-G0 (PART NO. 310001-G0)
TO EPROM LABELED XA-GA0 (PART NO. 310001-GA0)

EXPLANATION: IF THE FOLLOWING ACTIONS ARE TAKEN, AN ERROR WILL OCCUR.

1. ENTER MANUAL MODE.
2. WHILE IN MANUAL MODE, PERFORM AN "EDIT" (EXAMPLE RAISE THE FREQ OF YCO2 UNTIL IT IS DOUBLED.)
3. PUSH WRITE BUTTON
4. PUSH PROGRAM BUTTON (YOU WANT TO PATCH IN
5. LET GO OF PROGRAM NUMBER BUTTON BEFORE YOU
6. GET GO OF WRITE BUTTON.

IF YOU LISTEN NOW, YCO 2 WILL BE DOUBLED, AGAIN. IT'S AS IF THE SAME EDIT WERE PERFORMED TWICE. THE PROGRAM WAS SAVED CORRECTLY, HOWEVER. PUSHING THE PROGRAM BUTTON AGAIN WILL RESTORE YOUR PATCH.

THIS ERROR IS CORRECTED IN XA-GA0.

REF. 5002

REASON FOR CHANGE

TO ELIMINATE "EDIT-DOUBLING" ERROR CONTAINED IN XA-G0.
(SEE EXPLANATION ABOVE)

ACTIVITY

WRITTEN BY

DATE

☐ FUTURE PRODUCTION ONLY

ANNE

3-4-82

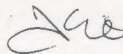
☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY

☐ RETROFIT UNITS IN FIELD

APPROVED BY

DATE

☐ CORRECTION ONLY; HARDWARE NOT AFFECTED



3-4-82

PRODUCT AFFECTED

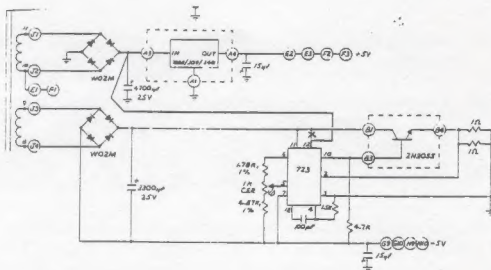
OB-Xa

DRAWINGS AFFECTED

Schematische - 1515

DESCRIPTION OF CHANGE

Cut lead going to pin 12 of the -5
723. regulator & run that pin to the
+ lead of the +5 filter cap.



REASON FOR CHANGE

Allow for operation down to 90 VAE input.

EFFECTIVITY

☒ FUTURE PRODUCTION ONLY☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY☐ RETROFIT UNITS IN FIELD

7 DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED

WRITTEN BY

DATE _____

4/5/82

APPROVED BY

DATE _____

EQ 4/5/82

PRODUCT AFFECTED

08-XA

DRAWINGS AFFECTED

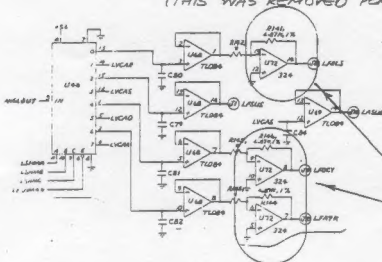
SCHEMATIC 1516A LOWER CONTROL 7A

ASSEMBLY 72053 LOWER CONTROL 7A

DESCRIPTION OF CHANGE

1. CHANGE UT2 FROM AN LM324 (313022) TO A TL084 (313024).
 2. ADD 1 EA: 219902 14 PIN I.C. SOCKET AT LOCATION UT2.**
- (THIS WAS REMOVED FOR ECO #137)

** SOCKET REPLACEMENT = INTERNAL
USE ONLY **



REASON FOR CHANGE

TO ELIMINATE FILTER ENVELOPE NON-MATCHING PROBLEMS
CAUSED BY SENSITIVITY OF 324 TO NOISE.
(SEE ECO #135)

EFFECTIVITY

- ☒ FUTURE PRODUCTION ONLY
- ☐ RETROFIT UNITS IN PRODUCTION AND INVENTORY
- ☐ RETROFIT UNITS IN FIELD
- ☐ DRAWING CORRECTION ONLY; HARDWARE NOT AFFECTED
- ☒ AS NEEDED IN TEST

WRITTEN BY

ANNE

4-19-82

APPROVED BY

4-19-82

